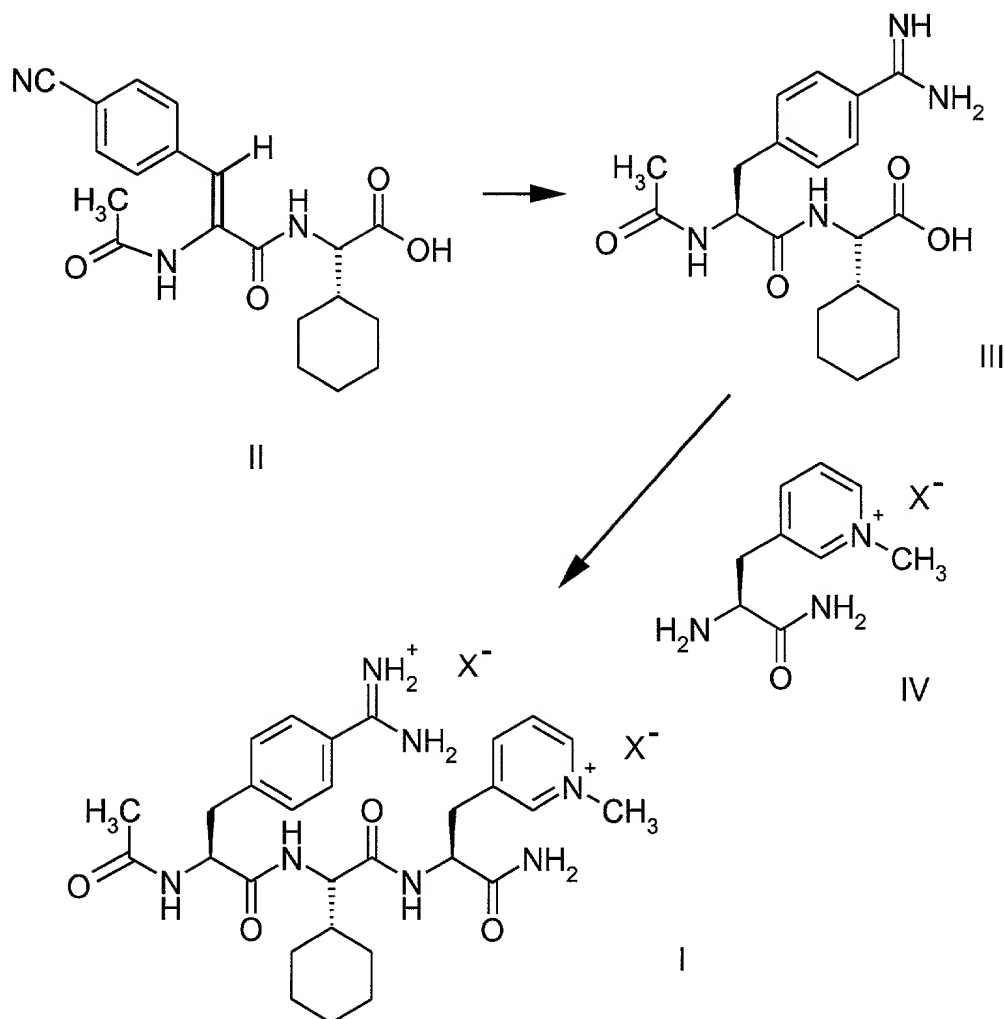


Patent Claims

1. A process for the preparation of a compound of the formula I, which comprises:
converting a compound of the formula II into a compound of the formula III or its salt
with an acid HX, said converting comprises catalytic hydrogenation and conversion of
the cyano group into an amidino group,
followed by reacting the compound of the formula III or its salt with the acid HX with a
compound of the formula IV or its salt with the acid HX to give a compound of the
formula I,
wherein the anions X^- of the formulae I and IV and of the acid HX are physiologically
acceptable anions, and are identical or different

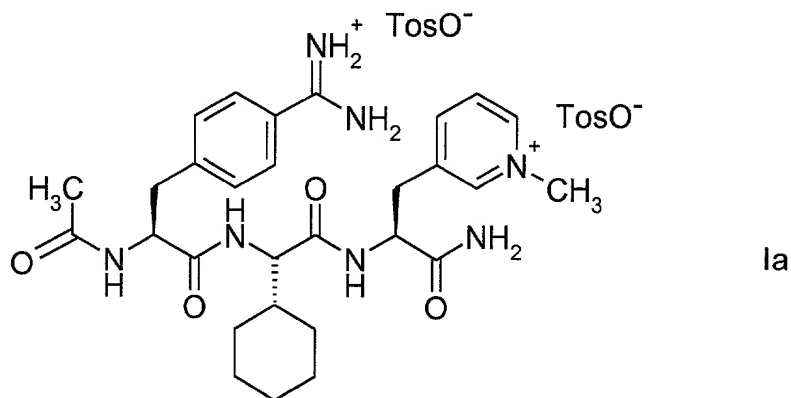


2. The process as claimed in claim 1, wherein the anions X⁻ of the formulae I and IV and of the acid HX are identical.

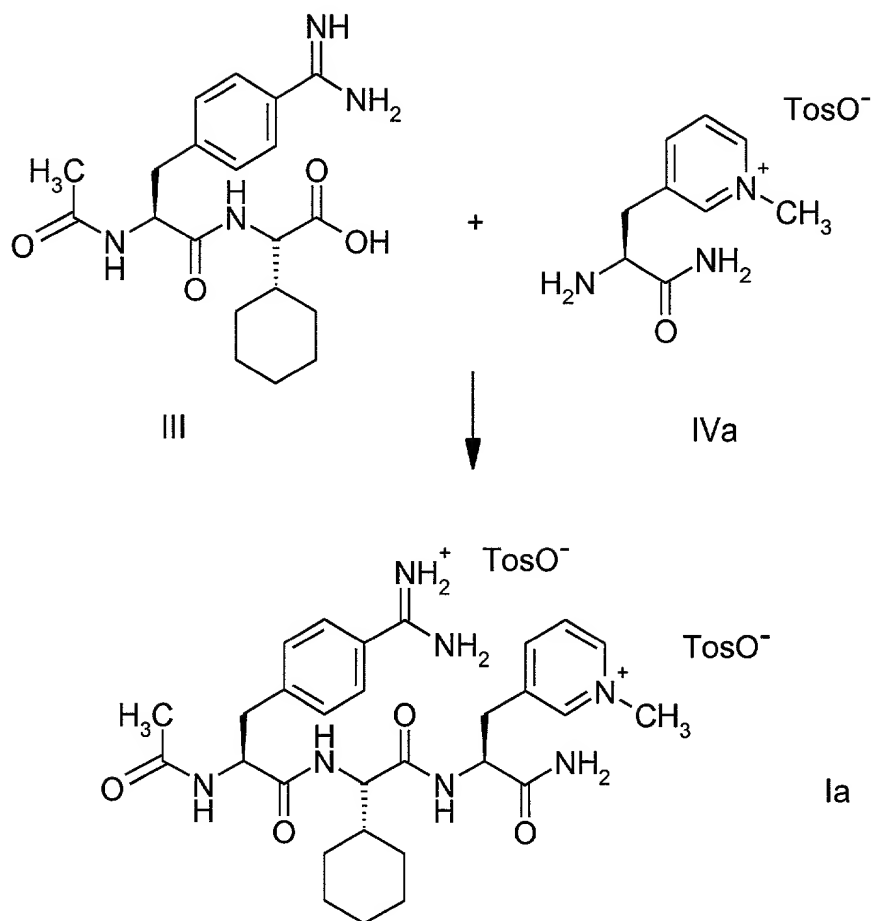
3. The process as claimed in claim 1, which comprises employing in the catalytic hydrogenation a catalyst, the catalyst comprising a chiral rhodium(I) complex.

4. The process as claimed in claim 3, wherein the chiral rhodium(I) complex is a rhodium(I)-(+)-(2R,4R)-1-tert-butyloxycarbonyl-4-diphenylphosphino-2-(diphenylphosphinomethyl)pyrrolidine complex.
5. The process as claimed in claim 1, wherein the conversion of the cyano group into the amidino group comprises reacting the cyano group with hydroxylamine or an hydroxylammonium salt to yield a resulting N-hydroxyamidine, and hydrogenolysing the resulting N-hydroxyamidine.
6. The process as claimed in claim 1, wherein the reacting of the compounds of the formulae III and IV or of salts thereof is carried out in the presence of a carbodiimide.
7. The process as claimed in claim 1, wherein the reacting of the compounds of the formulae III and IV or of salts thereof is carried out in the presence of dicyclohexylcarbodiimide and 3-hydroxy-4-oxo-3,4-dihydro-1,2,3-benzotriazine.
8. The process as claimed in claim 1, wherein in the reacting of the compounds of the formulae III and IV or the salts thereof, the compound of the formula IV is employed in the form of its salt with the acid HX, and the compound of the formula III is employed as such.
9. The process as claimed in claim 1, wherein the anions X^- of the formulae I and IV and of the acid HX are toluene-4-sulfonate.

10. The compound of the formula Ia in which the anion TosO^- is toluene-4-sulfonate

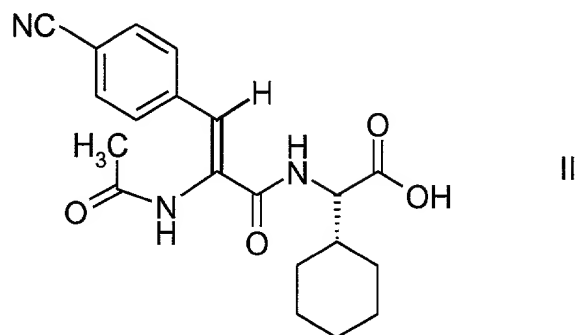


11. A process for preparing a compound of the formula Ia in which the anion TosO^- is toluene-4-sulfonate, which comprises reacting a compound of the formula III or the toluene-4-sulfonic acid salt thereof with a compound of the formula IVa or the toluene-4-sulfonic acid salt thereof to give the compound of the formula Ia

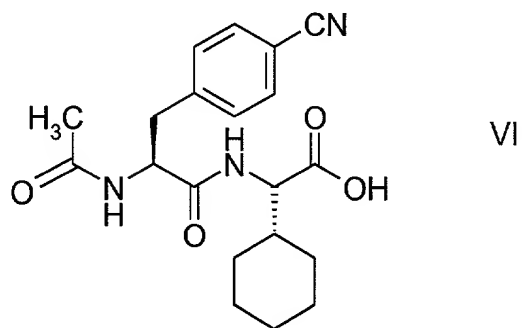


12. The process as claimed in claim 11, wherein the compound of the formula IVa is employed in the form of its salt with toluene-4-sulfonic acid and the compound of the formula III is employed as such, and the reacting is carried out in the presence of dicyclohexylcarbodiimide and 3-hydroxy-4-oxo-3,4-dihydro-1,2,3-benzotriazine.

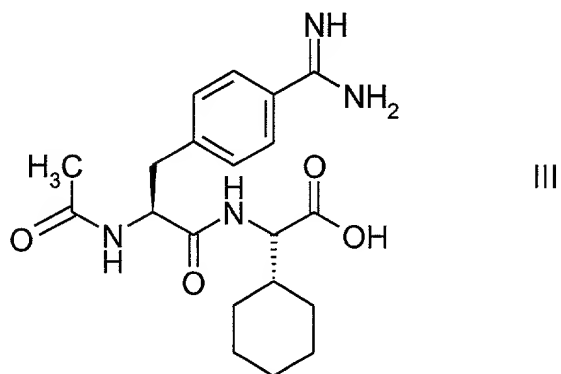
13. A compound of the formula II or a salt thereof



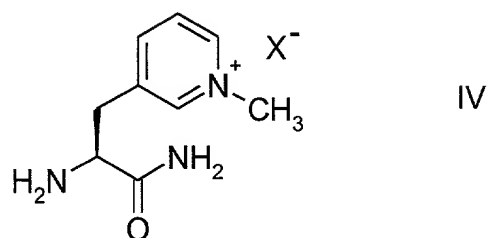
14. A compound of the formula VI or a salt thereof



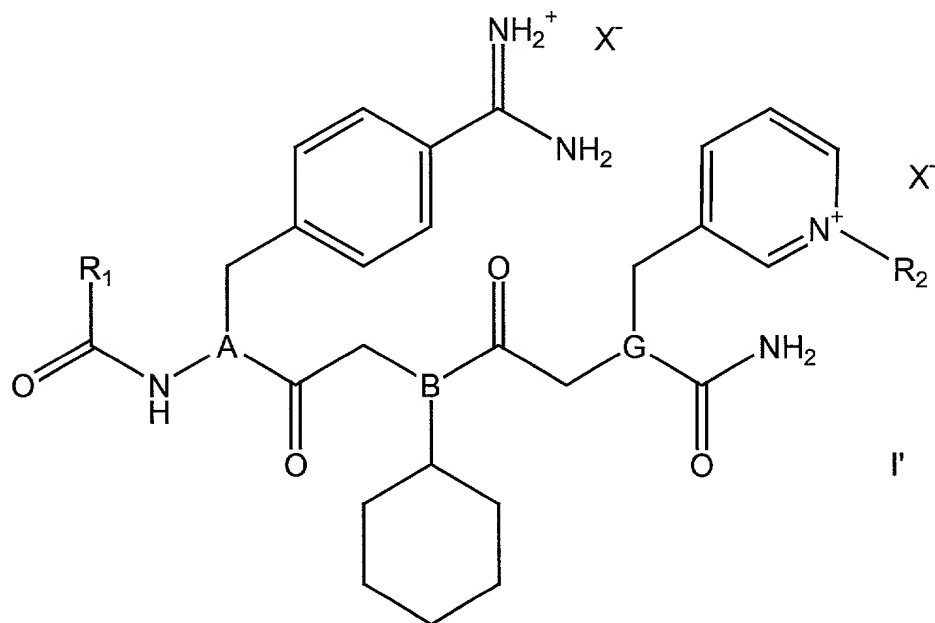
15. A compound of the formula III or a salt thereof



16. A compound of the formula IV where the anion X^- is a physiologically acceptable anion, or a salt thereof



17. A process for the preparation of a compound of the formula I':



wherein

R_1 is C_1 - C_4 alkyl;

R_2 is C_1 - C_4 alkyl;

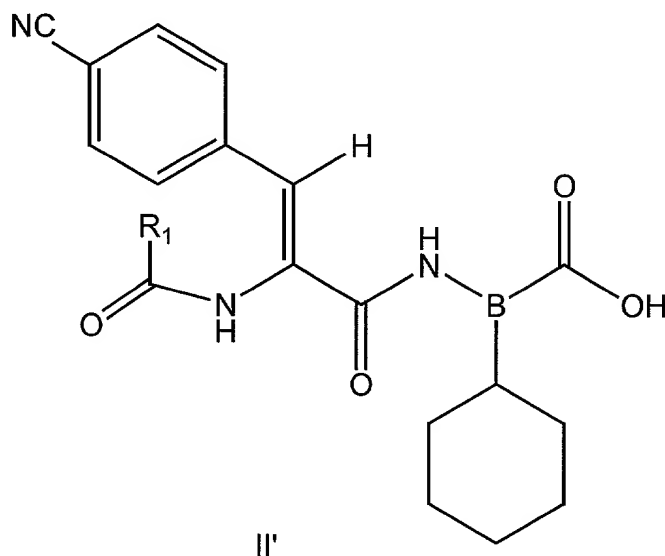
A is CH in the R or S configuration;

B is CH in the R or S configuration; and

G is CH in the R or S configuration,

the process comprising:

converting a compound of the formula II' into a compound of the formula III' or its salt with an acid HX, the compound of the formula II' having the structure:

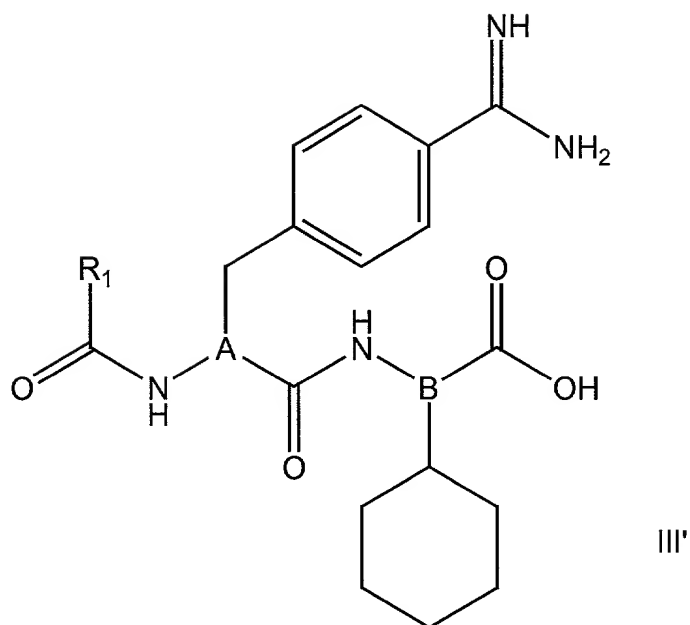


wherein

R_1 and B have the same meanings as in the formula I',

said converting comprises catalytic hydrogenation and conversion of the cyano group into an amidino group;

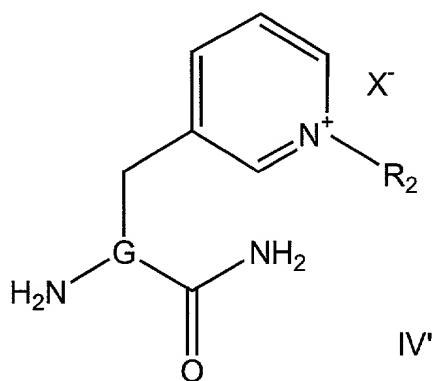
the compound of the formula III' having the structure:



wherein

R₁, A, and B have the same meanings as in the formula I';

followed by reacting the compound of the formula III' or its salt with the acid HX with a compound of the formula IV' or its salt with the acid HX:



wherein

R₂ and G have the same meanings as in the formula I',

to give a compound of the formula I',

wherein the anions X^- of the formulae I' and IV' and of the acid HX are physiologically acceptable anions, and are identical or different.